IN THE CLAIMS:

1. (Canceled)

2. (Cancel)

3. (Previously Presented) The method according to Claim 15, comprising adjusting said second pH of said separated aqueous phase resulting from the first separation by said subsequent neutralization to a value of at least 4.5.

4. (Previously Presented) The method according Claim 15, wherein said preliminary and subsequent neutralizations are carried out using a strong base selected from at least one of the group consisting of the hydroxide, the oxide and the water-soluble salts of calcium, sodium, potassium and ammonium.

5. (Currently Amended) The method according to Claim 15, wherein the digestion is carried out at ~~ambient~~a temperature between about 20 and 80°C.

6. (Previously Presented) The method according to Claim 15, further comprising a preliminary step of forming said aqueous solution of hydrochloric acid by diluting concentrated hydrochloric acid in water.

7. (Previously Presented) The method according to Claim 15, further comprising a preliminary step of forming said aqueous solution of

hydrochloric acid by treating an aqueous solution of calcium chloride with sulphuric acid and removing a calcium sulphate precipitate therefrom.

8. (Previously Presented) The method according to Claim 15, wherein the phosphate ore has a P_2O_5 content of 25 to 35% by weight.

9. (Previously Presented) The method according to Claim 15, wherein said aqueous solution of hydrochloric acid which is used in the digestion has an HCl concentration of around 3 to 8% by weight.

10. (Previously Presented) The method according to Claim 15, further comprising a treatment of said aqueous solution of calcium chloride with an aqueous solution of sulphuric acid, with formation of insoluble calcium sulphate, which precipitates, and of an aqueous phase based on hydrochloric acid, an isolation of the calcium sulphate precipitate, and an at least partial recycling, to the digestion step, of the aqueous phase based on hydrochloric acid, so as to form said aqueous solution of hydrochloric acid.

11. (Previously Presented) The method according to Claim 15, further comprising an additional neutralization of said aqueous solution of calcium chloride, so as to adjust this aqueous solution to a pH which is greater than the pH of the subsequent neutralization and so as to precipitate residual impurities, and an elimination of these impurities from said aqueous solution, a treatment of the latter with an aqueous solution of sulphuric acid, with formation of insoluble calcium sulphate, which

precipitates, and of an aqueous phase based on hydrochloric acid, an isolation of the calcium sulphate precipitate, and a recycling, to the digestion step, of the aqueous phase based on hydrochloric acid, so as to form said aqueous solution of hydrochloric acid.

12. (Previously Presented) The method according to Claim 11, wherein the pH of said aqueous solution of calcium chloride is adjusted by said additional neutralization to a value of at least 8.5.

13. (Previously Presented) The method according to Claim 11, wherein the additional neutralization is carried out using a strong base selected from at least one of the group consisting of the hydroxide, the oxide and the water-soluble salts of calcium, sodium, potassium and ammonium.

14. (Previously Presented) The method according to Claim 15, wherein the digestion takes place in a reactor equipped with a stirrer.

15. (Currently Amended) A method for etching phosphate ore, comprising:

(a) a digestion, in one step and in co-current, of phosphate ore having a P_2O_5 content of more than 20% by weight and an aqueous solution of hydrochloric acid having an HCl concentration of less than 10% by weight, which results in formation of an etching liquor consisting of an aqueous phase, in which calcium phosphate is in solution, and an insoluble solid phase which contains impurities,

(b) a preliminary neutralization of the etching liquor containing calcium phosphate in solution to a first pH which is ~~lower than a pH at which a significant part of this calcium phosphate in solution precipitates in the form of calcium monohydrogen phosphate (DCP)~~ between about 0.8 and 4.0, with precipitation of impurities,

(c) a first separation between the insoluble solid phase and the aqueous phase of the neutralized etching liquor, during which an isolation of the precipitated impurities takes place,

(d) a subsequent neutralization of the separated aqueous phase resulting from the first separation to a second pH which is greater than said first pH, with precipitation of DCP, and

(e) a second separation in this subsequently neutralized aqueous phase between an aqueous solution of calcium chloride and the precipitated DCP.

16. (New) A method for etching phosphate ore, consisting of the sequential steps of:

(a) a digestion, in one step and in co-current, of phosphate ore having a P_2O_5 content of more than 20% by weight and an aqueous solution of hydrochloric acid having an HCl concentration of less than 10% by weight, which results in formation of an etching liquor consisting of an aqueous phase, in which calcium phosphate is in solution, and an insoluble solid phase which contains impurities,

(b) a preliminary neutralization of the etching liquor containing

calcium phosphate in solution to a first pH which is between about 0.8 and 4.0, with precipitation of impurities,

(c) a first separation between the insoluble solid phase and the aqueous phase of the neutralized etching liquor, during which an isolation of the precipitated impurities takes place,

(d) a subsequent neutralization of the separated aqueous phase resulting from the first separation to a second pH which is greater than said first pH, with precipitation of DCP, and

(e) a second separation in this subsequently neutralized aqueous phase between an aqueous solution of calcium chloride and the precipitated DCP.